

Some Problems of the Stability Investigation of  
Shells, by V. M. Chebanov.

RUSSIAN, per, Vestnik Leningradskogo Universiteta,  
Seriya Matematiki, Mekhaniki i Astronomii, No 1 (1),  
1959, pp 79-93.

\*FTD-MT-62-57

Sci - Engr  
Oct 62

-210 07 9

Simultaneous Microdetermination of Carbon, Hydrogen  
and Sulfur, by E. I. Margolis, N. F. Egorova.

RUSSIAN, per, Vestnik Moskov Univ, Ser Matematiki,  
Mekhaniki, Astronomii, Fiziki, Khimii, Vol XIII,  
No 4, 1958, pp 209-213.

ATS RJ-2019

Sci - Chem

Jan 60

105681

On the Convergence of the Expansion of the Force  
Function of Gravitation of Two Bodies, by  
Iarov-Iarovei, M. S.

RUSSIAN, per, Universitet Vestnik Seria Matemat,  
Mekh, Astron, Fiz, Khimii, No 5, 1958, pp 63-66.

\*Rand Corp

Sci-Phys  
May 63

Sakharov, G. D.

MÉTHODE NOUVELLE POUR L'ÉTUDE DES  
COMPOSÉS DE SURFACES [New Method of Investi-  
gating Surface Compounds] tr. by Orbec. 19 Oct 60  
[11]p. 18 refs. CEA Trans. no. R 1017 (text in  
French).

Order from OTS or SLA \$1.60

61-15749

Trans. in French of Moscow U. Vestnik, Seriya  
Matematiki, Mekhaniki, Astronomii, Fiziki, Khimii  
(USSR) 1959 [v. 14] no. 1, p. 145-150.

DESCRIPTORS: \*Catalysis, Catalysts, Surface prop-  
erties, Chemical reactions.

(Chemistry--Physical, TT, v. 6, no. 7)

61-15749

- I. Sakharov, G. D.
- II. CEA-tr-R1017
- III. Commissariat à  
l'Énergie Atomique  
(France)

Office of Technical Services

Reznitskii, L. A. and Khomyakov, K. G.  
CALORIMETRIC DETERMINATION OF THE HEAT  
OF REDUCTION OF FERRITES BY HYDROGEN. I.  
CALORIMETER: REDUCTION OF FERRIC OXIDE.  
[1961] [8]p. 3 refs.  
Order from OTS or SLA \$1.10 61-27806

Trans. of Moscow U. (Vestnik) [Seriya Matematiki  
Mekhaniki Astronomii, Fiziki, Khimii] 1959 [v. 14]  
no. 2, p. 217-224.

DESCRIPTORS: Calorimeters, \*Heat, Reduction, Iron  
compounds, Oxides, \*Ferrites, \*Hydrogen,  
\*Calorimetry, Determination.

An isothermal calorimeter is described that was con-  
structed for the determination of the heats of reactions  
at high temperatures. The possibility, in principle, of  
doing calorimetric measurements on slow endothermal  
(Physics--Thermodynamics, TT, v. 6, no. 9) (over)

61-27806

I. Reznitskii, L. A.  
II. Khomyakov, K. G.  
III. Title: Calorimeter ...  
IV. Translations, New York

185619

Office of Technical Services

(HX-3367).

Numerical Determination of Aerodynamic  
Characteristics of Certain Wings of Finite  
Dimensions, by S. V. Vallander, 8 pp.

RUSSIAN, per, Vest Leningrad U, No 19, Ser  
Matematiki Mekh i Astron, No 4, 1959, pp 106-112.

JPRS 2303

Sci - Engineering  
Mar 60

110,179

(NY-3367).

Developable Wings, by S. V. Vellander, 10 pp.

RUSSIAN, per, Vest Leningrad U, No 19, Ser Mat.  
Mekh i Astron, No 4, 1959, pp 113-120.

JPRS 2304

Sci - Engr  
Mar 60

110,593

(NY-3367).

Investigation of the Stability of the Vertical  
Position of a Gyroscope of Variable Mass, by V. S.  
Novoselov, 12 pp.

RUSSIAN, per, Vest Leningrad U, No 19, Ser Mat,  
Mekh i Astron, No 4, 1959, pp 121-129.

JPRS 2305

Sci - Engr  
Apr 60

112,626



On a Method for Obtaining Estimations of a Certain  
Kind for Functions Regular in the Circle, by N. A.  
Lebedev, G. A. Sogomonova, 17 pp.

RUSSIAN, per, Vest Lenin Un-ta, Ser Matemat, Mekh  
i Astron, No 13, 1959, pp 5-19.

ACSI H-6329  
ID 2144841

Sci - Math

Oct 60

Yakubovich, V. A.  
ON NONLINEAR DIFFERENTIAL EQUATIONS OF  
AUTOMATIC REGULATION SYSTEMS WITH ONE  
CONTROL ELEMENT. [1961] [64]p. 19 refs.  
Order from OTS or SLA \$6.60 61-16547

Trans. of Leningrad U. Vestnik (USSR) 1960 [v. 15]  
no. 7, Seriya Matematiki, Mekhaniki i Astronomii  
[no. 2] p. 120-153.

DESCRIPTORS: Automatic, \*Control systems,  
Numerical methods and procedures, Stability, \*Non-  
linear differential equation, Matrix algebra, Algebra,  
Tensor analysis.

A strict mathematical foundation is presented for the  
method of A. I. Lur'e (Some nonlinear problems in  
the theory of automatic control, Moscow, 1951;

(Engineering--Electronic, TT, v. 7, no. 5) (over)

61-16547

I. Yakubovich, V. A.

Office of Technical Services

Kurchakov, A. V.  
OPTICAL PROPERTIES OF THE ATMOSPHERE AND  
SURFACE OF THE PLANET MARS, tr. by M. G.  
Scott. [1962] 5p. 12 refs.  
Available in ARS Journal, v. 32, no. 3, \$3.00

Trans. of Leningrad U. Vestnik (USSR) 1960 [v. 15]  
no. 7 [Seriya Matematiki, Mekhaniki i Astronomii,  
no. 2] p. 154-163.

DESCRIPTORS: Planets, \*Mars, Planetary atmos-  
pheres, Atmosphere, Surfaces, Optics, Thickness,  
Scattering, Brightness, Absorption.

(Astronomy--Astrophysics, TT, v. 7, no. 12)

62-12880

I. Kurchakov, A. V.  
II. American Rocket  
Society, New York

Office of Technical Services

The Laminar Boundary Layer of a Flat Plate  
in the Presence of Dissociation, by  
Z. S. Galanova, 7 pp.

RUSSIAN, per, Vest Leningradskogo Univ,  
Ser Matemat Mekh i Astron, Vol XIX, No 4,  
~~1960, pp 95-99.~~ 9677767

FTD MCL-1190/1

Sci - Phys

171,542

20 Oct 61

1  
Certain Nonlinear Operators of the Elasticity  
Theory in Hilbert Space, by A. Lengenbakh,  
19 pp.

RUSSIAN, per, Vest Leningrad Univ., Ser  
Mate, Mekh i Astron, No 1, 1961, pp 38-50.  
9664229

FTD-TT-61-316

Sci - Phys

186,261

2 Mar 62

Diffusion of Radiation in a Semi-Infinite Medium With  
Non-Isotropic Scattering, by I. N. Minin, 24 pp.  
RUSSIAN, per, Vest Lening Univer, Ser Mat Mekh  
Astron, Vol XVI, No 1, 1961, pp 133-143.

CIA/FDD XX-1495  
NO FOREIGN DISSEM

Sci - Earth Sci & Astron  
Mar 64  
USIB Internal Use Only

252,250

The Motion of a Conducting Gas in a  
Magnetogasdynamic Generator, by  
O. A. Berezin, 14 pp.

RUSSIAN, per, Vest Leningrad U. Ser Mate,  
Mekh i Astron, Vol XIII, No 3, 1961,  
pp 93-102. 9571706

FTD-HT-61-104

Sci - Engg

176,292

14 Dec 61

A NONSTEADY-STATE BOUNDARY-VALUE PROBLEM OF THE  
HYDRODYNAMICS OF A VISCOUS INCOMPRESSIBLE FLUID,  
BY O. V. GUSEVA, 18 PP.

RUSSIAN, PER, VEST LENINGRAD UNIV, SER MATEMAT  
MEKH I ASTRON, NO 4, 1961, PP 122-137. ~~9665948~~

FTD-TT-62-710

SCI - ENGR  
AUG 62

206,324



Gromov, S. V.  
THE QUESTION ON THE DETERMINATION OF THE  
GENERAL TERRESTRIAL ELLIPSOID. [1962] [11]p.  
4 refs.  
Order from OTS or SLA \$1.60

63-10310

Trans. of Leningrad U. Vestnik (USSR) 1961 [v. 16]  
no. 7 [Seriya Matematiki, Mekhaniki i Astronomii,  
no. 2] p. 136-141.

DESCRIPTORS: Determination, \*Ellipsoids, \*Earth  
models, \*Geodesics, Gravity, Acceleration, Equations,  
Errors.

This paper presents a resume of some of the problems  
involved in determination of a standard Earth model.  
(Author)

(Earth Sciences--Geodesy, TT, v. 9, no. 12)

63-10310

I. Gromov, S. V.

Office of Technical Services

The Flow of Dissociating Nitrogen Between Two  
Parallel Plates, by L. A. ~~ANILIN~~ Kulonen, 11 pp.

RUSSIAN, per, Vest Leningrad Univ, Ser Matemat,  
Mekh i Astron, No 1, 1962, pp 116-123. 966624

FED-77-62-1145

Sci - Phys  
Nov 62

216, 895

Solution of the Problem of Stability of a Stellar  
System with the Emden Density Law and Spherical  
Velocity Distribution, by V. A. Antonov, 33 pp.  
RUSSIAN, per, Vestnik Leningrad Univ. Ser. Math.,  
Mekh. Astron., No. 2, 1962, pp 135-146.  
AEC/PPL-Tr-1-69

Sci/Astron  
Dec 69

398,068

The Method of Transverse Approximation  
in a Hypersonic Flow, by I. I. Aleksenko,  
R. G. Barantsev, 31 pp.  
RUSSIAN, per, Vest Leningrad Univ,  
Ser Mate Mekh i Astron, No 4, 1962,  
pp 62-78. 9699615  
FTD-TT-65-1806

Sci - Elec  
Feb 66

296,330

Gelig, A. [kh.].  
ON THE APPLICATION OF LYAPUNOV'S SECOND  
METHOD TO THE STABILITY INVESTIGATION OF  
THE MOTION OF NONLINEAR DISCONTINUOUS  
SYSTEMS. Aug 62 [7] p. 9 refs.  
Order from OTS or SLA \$1.10

62-20258

Trans. of Leningrad U. Vestnik (USSR) 1962 [v. 17]  
no. 7, [Seriya Matematiki, Mekhaniki i Astronomii  
no. 2] p. 58-61.

DESCRIPTORS: \*Nonlinear systems, Automatic,  
\*Control systems, Stability, Motion, Equations of  
motion, \*Functions, Integrals.

The problems of stability "in the large" of systems of  
indirect automatic control with one control member,  
when the non-linear characteristic has discon-  
tinuities of the 1st order are investigated. It is proved  
(Engineering--Electronic, TT, v. 9, no. 11) (over)

62-20258

1. Title: Stability analysis
2. Title: Lyapunov method
- I. Gelig, A. kh.
- II. Lyapunov, A. M.

Office of Technical Services

A Conical Wing in a Supersonic Gas Flow, by  
A. S. Avdonin, 17 pp.

RUSSIAN, per, Vest Leningrad Univ, Seriya Matematiki,  
Mekhaniki i Astron, M No 7, 1962, pp 62-74.

9669773

9686757

FTD-TT-63-392

Sci-Aero

Aug 63

342,085

An Approximate Analytical Solution of the  
Irrotational Equations of Supersonic Flow Past  
Developable Wings, by I. A. Popova, 25 pp.

RUSSIAN, per, Vest Leningrad Univ, Seriya Matematiki,  
Mekhaniki i Astron, No 7, 1962, pp 87-104. 9669773  
9686757

FTD-TT-63-392

Sci-Aero

Aug 63

342,086

Analytic Solution of the Problem of Supersonic Gas Flow  
Around a Cone, by A. S. Mikheev, 9 pp.

RUSSIAN, per, Vest Len Univ, Math Mekh Astron Ser, No 7,  
1962, pp 105-112.

CIA/FDD X-5219

Sci - Physics

Sept 63

FOR OFFICIAL USE ONLY

345,278



An Analytical Solution to the Problem of  
Supersonic Gas Flow Past a Lattice of  
Conical Vanes. I., by N. V. Smirnov, 17 pp.

RUSSIAN, per, Vest Leningrad Univ, Seriya  
Matematiki, Mekhaniki i Astron, No 7, 1962,  
pp 105-116. 9669773

9686757

FTD-TT-63-392

Sci-Aero

Aug 63

342,087

On Supersonic Conical Flows With Complicated  
Thermodynamics, by N. V. Smirnov, 7 pp.

RUSSIAN, per, Vest Leningrad Univ Ser Mate  
Mekh Astron, No 7, 1962, pp 113-118.

CIA/FDD X-5197

Sci - Physics

Aug 63

FOR OFFICIAL USE ONLY

342,041

**REVIEW**

Formulating the Law of Galactic ~~XXX~~ Rotation From Radio  
Astronomical Observations, by T. K. Agekyan, E. Klosovskaya.  
RUSSIAN, per, Vest Leningrad Univ Seriya Mat Mekh i Astron,  
No 13, 1962, pp 103-112.

CSIRO/No 6436

Sci - Earth Sci

Feb 64

250,145

Aleksenko, L. L., Barantsev, R. G., and Panteleeva,  
L. N.

TRANSVERSE APPROXIMATION IN HYPERSONIC  
AERODYNAMICS (Metod Poperechnoi Aproksimatsii v  
Giperzvukovoi Aerodinamike). [1964] [20p] (foreign  
text included) 27 refs  
Order from OTS, SLA, or ETC \$1.60 TT-64-10798

Trans. of Leningrad U. Vestnik (USSR) 1962 (v. 17)  
no. 19 [Seriya Matematiki, Mekhaniki i Astronomii]  
no. 4, p. 62-78.

(Mechanics---Aerodynamics, TT, v. 12, no. 2)

TT-64-10798

I. Aleksenko, L. L.  
II. Barantsev, R. G.  
III. Panteleeva, L. N.

Office of Technical Services

Thermodynamic Investigation of the Lower  
Tungsten Chlorides, by S. A. Shchukarev, G. I.  
Novikov, A. M. V. Andreyeva, 16 pp.

RUSSIAN, per, Leningrad U. Vestnik, Vol. XIV,  
No 4, [Seriya Fizika i Khimii, No 1], 1959,  
pp 120-131.

SLA 60-16770

Sci  
Vol 4, No 10  
May 62

195,984'

A Note on Natural Neutron Activity of Arsenic  
and Antimony, by V. I. Baranovskiy, O. V.  
Lazarenov, M. K. Nikitin, A. A. Trushenko, 3 pp.

IZVESTIYA, Ser. Vestnik Leningrad U, Ser Fiz i Khim,  
No 2, 1979, pp 25, 26.

AEC tr-3869

Sci - Phys  
Jan 60

105,835

Industrial Applications of Quantitative  
Spectral Analysis of Inert Gases, 3 pp.

RUSSIAN, per, Vest Lenin Univ. Seriya  
Fiziki i Khimii, No 3, 1959, pp 19-24.

AF 1256277

UOSSR

Sci - Physics

Jan 60

105,378

Myuller, R. L., Markova, T. P., and Repinskii, S. M.

DISSOLUTION KINETICS OF GERMANIUM IN NITRIC ACID. [1962] [27]p. 27 refs.

Order from OTS or SLA \$2.60 62-14471

Trans. of Leningrad U. Vestnik (USSR) 1959 [v. 14] no. 16 [Seriya Fiziki i Khimii, no. 3] p. 106-118. Another trans. is available from OTS or SLA \$1.60 as 62-23096, MDF M-132 [1960] 15p.

DESCRIPTORS: \*Germanium, Oxidation Solubility, \*Nitric acid, Reaction kinetics.

The dependence of the dissolution rate of germanium in solutions of nitric and nitrous acids on the temperature and stirring of the solution is investigated. Conclusions are drawn in favor of limited heterogeneous chemical oxidation reactions of germanium (Chemistry--Physical, TT, v. 8, no. 10) (over)

62-14471

I. Myuller, R. L.  
II. Markova, T. P.  
III. Repinskii, S. M.

Office of Technical Services



The Part Played by Cascade Transitions in the Excitation  
of Helium Lines, by V. E. Yakhontova, 18 pp.

RUSSIAN, per, Vest Leningrad Univ., Ser. Fiz. i Khim,  
Vol XIV, No. 10/2, 1959, pp 27-42. 9213071

AERE-Harwell-Tr-951

OTS TT-62-23710

Sci - Phys

Oct 63

345,209

Heats of Reaction of  $\text{CdO}$  and  $\text{Cd}(\text{OH})_2$  With  
Haloid and Perchloric Acids, by S. A. Shchukarev,  
L. S. Lilich, et al.

RUSSIAN, per, Vest Lenin Univ, Ser Fiz i  
Khim, Vol XIV, No 10, 1959, pp 66-71.

SLA 60-16828

Sci ..  
Vol IV, No 7  
Apr 62

193,850

Tracing the Time Variation of Spectrum Line Profiles  
In the Radiation of a Spark Discharge, by M. P.  
Vanyukov, B. A. Ermakov, A. A. Mak, et al, 8 pp.

RUSSIAN, per, Vest Leningradskogo Univ, Ser Fiz i Khim,  
No 16 (30), 1959, pp 25-32.

MDF V-149

9093217

145, 685

Sci

Nov 61

Shchukarev, S. A., Smirnova, E. K. and others.  
THE ENTHALPY OF FORMATION OF TANTALUM  
PENTACHLORIDE AND PENTABROMIDE. [1962] [8]p.  
17 refs.

Order from OTS or SLA \$1.10

63-13400

Trans. of Leningrad U. Vestnik (USSR) 1960, v. 15,  
no. 16, Ser[iya] Fiz[ika] i Khim[i] no. 3, p. 113-119.

DESCRIPTORS: Enthalpy, \*Tantalum compounds,  
\*Chlorides, Bromides, \*Heat of formation, Hydrolysis,  
Heat of reaction.

(Physics--Thermodynamics, TT, v. 9, no. 12)

63-13400

I. Shchukarev, S. A.  
II. Smirnova, E. K.  
III. Translations, New York

Office of Technical Services

Certain Questions of the Formation of Complex  
Tetrahedral Phases, by N. A. Goryunova, 19 pp.

RUSSIAN, per, Vestnik Leningrad Univ, No 10,  
Fiz-Khim, No 2, 1961, pp 112-124.

MDF G-210a  
9092769

Sci  
Oct 61.

171, 5-25

On the Canonic Transformation in Classical and  
Quantum Mechanics, by V. A. Fock, 5 pp.

RUSSIAN, per, Vestnik, Leningrad Univ. *Eng. i*  
Chem. Ser., No 16(3), 1959, pp 67-70. *Phys.*

*Lin*  
MDF - F-121  
FDD X-4491

Sci - Electronics

Nov 60

131,841

Investigation of Molybdenum Halides: Synthesis and  
Determination of the Formation Enthalpy of Molybdenum  
Tetrachloride, by S. A. Shchukarev, I. V. Vasil'kova  
B. N. Sharupin, 8 pp.

RUSSIAN, per, Vest Leningrad U., Ser Fiz i Khim,  
Vol XIV, No 2, 1959, pp 72-77.

SLA 60-16769

Sci

190, 263

Apr 62

Vol IV, No 6

Kinetics of Germanium Dissolution in Nitric  
Acid, by R. L. Muller, T. P. Markova,  
S. M. Repinskiy, 15 pp.

RUSSIAN, per, Vest Leningrad Univ, Ser Fiz.-Khim,  
No 3, 1959, pp 106-116.

MDM M-132  
9093003

Sci  
Nov 61

173, 330



Methods for the Determination of Alkoxy Groups,  
by I. A. Favorskaya, E. M. Auvinen.

RUSSIAN, per, Vest Leningrad Univ, Seriya Fiziki  
i Khimii, No 3, 1959, pp 119-127.

DSIR LLU RTS 1624

Sci - Chem

Oct 60

128,842

Thermodynamic Investigation of the Lower  
Tungsten Chlorides, by S. A. Shchukarev, G. I.  
Novikov, A N. V. Andreyeva, 16 pp.

RUSSIAN, per, Leningrad U. Vestnik, Vol ~~XX~~ XIV,  
No 4, [Seriya Fizika i Khimii, No 1], 1959,  
pp 120-131.

SL

SLA 60-16770

Sci  
Vol 4, No 10  
May 62  
Sci

Vasil'yev, V. V., Gedeonova, V. I., and Muratova, N. Ye.

APPLICATION OF ULTRASONICS TO THE PHASE ANALYSIS OF LEAD ORES (Primeneniye Ul'trazvuka v Fazovom Analize Svintsovykh Rud). June 61 [6]p.

18 refs. RTS 1861.

Order from OTS or SLA \$1.10

61-19915

Trans. of Leningrad U. Vestnik (USSR) 1959, v. 14, no. 22, Seriya Fiziki i Khimii, no. 4, p. 146-148.

DESCRIPTORS: \*Lead, \*Ores, \*Ultrasonics, \*Solvent extraction.

An ultrasonic field is an efficient means for accelerating the selective extraction of individual minerals during phase analysis of lead ores. Judging by preliminary experiments, the use of an ultrasonic field in phase analysis of lead ores does not necessitate modifications in the normal analytical procedure. (Author)

(Metallurgy, TT, v. 6, no. 3)

61-19915

- I. Vasil'yev, V. V.
- II. Gedeonova, V. I.
- III. Muratova, N. Ye.
- IV. RTS-1861
- V. Department of Scientific and Industrial Research (Gr. Brit.)

175306

Office of Technical Services

Heats of Formation of Compounds of Strontium With  
Elements of the Principal Subgroup of Group IV, by  
M. P. Morozova, Li Mao-shu, M. V. Golosmolzina,  
4 pp.

RUSSIAN, per, Vestnik Leningrad U., Ser Fiz i Khim,  
Vol XIV, No 10, 1959, pp 83-86.

SLA 60-16684

Sci

190,249

Apr 62

Vol IV, No 6

Dolgov, B. N. and Ivanskly, V. I.  
SOME CATALYTIC CONVERSIONS OF PROPYLENE  
GLYCOL [1,2-PROPANEDIOL]. [1960] 10p. 18 refs.  
Order from RIS \$10.00 RIS B-61

Trans. of Leningrad U. Vestnik (USSR) 1959, v. 14,  
no. 16, Seriya Fiziki i Khimii no. 3, p. 128-133.

143,075

(Chemistry--Organic, TT, v. 5, no. 1)

61-12033

1. Aluminum silicates--  
Catalytic properties
2. Propene--Decomposition
- I. Dolgov, B. N.
- II. Ivanskly, V. I.
- III. RIS B-61
- IV. Research Information  
Service, New York

Office of Technical Services

Karpova, I. F., Leonova, T. G. and others.  
PROPRIÉTÉS D'ÉCHANGE IONIQUE DES MEMBRANES  
ET DES PRÉCIPITÉS DES FERROCYANURES DE  
CUIVRE, tr. by Fedorovsky. 4 Nov 60 [16]p. 15 refs.  
CEA Trans. no. R 1064 (text in French).  
Order from OTS or SLA \$1.60 61-15781

Trans. in French of Lenin[grad] U. Vestnik (USSR)  
1959 [v. 14] no. 22 [Seriya Fiziki i Khimii, no. 4]  
p. 97-103.

DESCRIPTORS: \*Ion exchange, \*Cyanides, \*Copper  
compounds, \*Iron compounds.

(Chemistry--Physical, TT, v. 6, no. 7)

61-15781

- I. Karpova, I. F.
- II. Leonova, T. G.
- III. CEA-tr-R1064
- IV. Commissariat à  
l'Énergie Atomique  
(France)

101053

Office of Technical Services

S-165/60

OC 3523 ).

Simplified Method for the Calculation of Fourier  
Series in the Structural Investigation of Crystals,  
by Ye. V. Stroganov,

RUSSIAN, per, Vest Leningrad U, Ser Fiz i Khim,  
No 4, 1959, pp 157-158.

\*JPRS

Sci - Phys

Mar 60

Rate of Removal of  $\text{RuO}_4$  From Aqueous Solutions by  
A Current of Air, by A. A. Goryunov, R. L. Myuller,  
8 pp.

*Vestnik Khim*  
RUSSIAN, per, <sup>^</sup> Ser Fiz i Khim, No 2, 1960,  
pp 104-111.

AEC-ERG-Inf-Ser-<sup>134</sup>~~330~~

Sci-MS  
Jan 64

248,323



Krylov, G. N. and Makarov, G. I.  
STRUCTURE OF THE ELECTROMAGNETIC FIELD OF  
A VERTICAL ELECTRICAL DIPOLE AND A VERTICAL  
ANTENNA IN SPACE ABOVE A PLANE EARTH, tr.  
by B. W. Kuvshinov. 12 Sep 62, 35p. 23 refs. APL/JHU  
TG 230-T331.  
Order from OTS \$1.00

63-11508

Trans. of Leningrad U. Vestnik (USSR) 1960 (v. 15)  
no. 16 [Seriya Fizika i Khimii] do. 3, p. 42-66.

DESCRIPTORS: \*Electromagnetic fields, \*Electric  
fields, \*Dipole moments, \*Dipole antennas, Antennas,  
Antenna radiation patterns, Earth, Electrical conduct-  
ance, Geophysics, Series, Integrals, Ionospheric  
propagation.

The exact calculation of the electromagnetic field of a  
vertical electrical dipole and vertical antenna over a  
(Physics--Wave Propagation, TT, v. 9, no. 3) (over)

63-11508

- I. Krylov, G. N.
- II. Makarov, G. I.
- III. APL/JHU TG 230-T331
- IV. Applied Physics Lab.,  
Johns Hopkins U., Silver  
Spring, Md.
- V. Contract NOW-62-0104-c

Office of Technical Services

B. P. Nikol'skiy: On His 60th Birthday, 11 pp.

RUSSIAN, per, Vest Leningrad U, Ser Fiz i Khim,  
Vol XV, No 22, 1960, pp 5-10.

JPRS 8203

USSR

Biog

Jun 61

154,577

(NY-5995)

The Theory of the Glass Electrode and Some Questions  
in the Theory of Glass, by M. M. Shul'ts, 27 pp.

RUSSIAN, per, Vest Leningrad U, Ser Fiz i Khim,  
Vol XV, No 22 (4), 1960, pp 40-48.

JPRS 9249

Sci - Chem

May 61

154, 430

Kinetics of Germanium Dissolution in Acid  
and Base Solutions of Hydrogen Peroxide,  
by ~~EE~~ R. L. Muller, A. V. Danilov,  
T. P. Markova, et al, 10 pp.

RUSSIAN, per, Vest Leningrad Univ, Ser.  
Fiz-Khim, No 4, 1960, pp 80-87.

MDF M-133  
9093004

Sci  
Nov 61

173.331

Kinetics of Germanium Dissolution in  
Aqueous Bromine and Iodine Solutions,  
by R. L. Muller, N. A. Baglai, 7 pp.

RUSSIAN, per, Vest Leningrad Univ, Ser  
Fiz-Khim, No 4, 1960, pp 88-94.

MDF M-134  
9093005

Sci  
Nov 61

173,332

Electroosmosis and Passage Potential Through Double-Layer Powder Diaphragms, by K. P. Tikhomolova, 16 pp.

RUSSIAN, per, Vest Lenin Univ, Ser Fiz i Khim,  
Vol XV, No 4, 1960, pp 106-116. 9089614

AEC Tr-5176

Sci - Phys, Chem  
Aug 62

208,435

All-Union Conference on the Vitreous State,  
No 3, by R. M. Myuller, 3 pp.

~~XXXXXXXX~~

RUSSIAN, per, Vestnik Leningrad U, [Ber Fiz i  
Khim, No 1] Vol XV, 1960, No 4, pp 144-145.

ATS-66M43R  
ATS/RJ-2512

Sci  
Jul 62

203,547

Vol 4, No 12

Molochnov, G. V.  
ELECTROMAGNETIC DIPOLE METHOD FOR DE-  
TERMINING THE DEPTH OF AN EMBEDDED LAYER  
OF FINITE CONDUCTIVITY (Dipol'nyi Elektromag-  
nitnyi Metod Opredeleniya Glubiny Zaleganiya Sloya  
Konechnoi Provodimosti) tr. by A. Pingell. 12 Jan 62,  
16p. 7 refs. N R L Trans. no. 880.  
Order from OTS \$0.50

62-11599

Trans. of Leningrad U. Vestnik (USSR) 1960 [v. 15]  
no. 10 [Seriya Fizika i Khimii, no. 2] p. 34-44.

DESCRIPTORS: \*Electromagnetic fields, Magnetic  
moments, \*Dipole moments, \*Conductivity, Penetra-  
tion, Dielectrics.

Formulae for the field of a vertical magnetic dipole in  
case of the finite conductivity of the first (upper) and  
second (lower) layers are developed. Displacement  
currents in the air are taken into consideration. The  
(Physics, TT, v. 8, no. 8) (over)

62-11599

- I. Molochnov, G. V.
- II. NRL Trans-880
- III. Naval Research Lab.,  
Washington, D. C.

Office of Technical Services



Goryunov, A. A., Myuller, R. L., and Kapustina, L. K.

RATE OF REMOVAL OF  $\text{RuO}_4$  FROM AQUEOUS SOLUTIONS BY A CURRENT OF AIR

A. E. Shaw, tr. 1963 [9p] 7refs TRG Information Series 134 (D).

Order from OTS, SLA, or ETC \$1.10 TT-64-13148

Trans. of Leningrad U. Vestnik (USSR) 1960 [v. 15] no. 10 [Seriya Fiziki i Khimii, no. 2] p. 104-111.

(Engineering--Chemical, TT, v. 12, no. 2)

TT-64-13148

- I. Goryunov, A. A.
- II. Myuller, R. L.
- III. Kapustina, L. K.
- IV. TRG-IS-134 (D)
- V. United Kingdom Atomic Energy Authority, Risley (England)

Office of Technical Services

A Device for Studying Nuclear Quadrupole  
resonance in Nitrogen Compounds, by V. S.  
Grechishkin and I. M. Ovchinnikov.

RUSSIAN, per, Vestnik Leningradskogo  
Universiteta, Seriya Fiziki i Khimii,  
1960, Vol 15, No 22, pp 126-129.

NLL RTS 2617 (On Loan or Purchase)

CESTE # 64-19922-on Loan

Aug 65

286,999

CEA-tr-R-1412      Uncl.

ETUDE DES DENSITES D'ATOMES EXCITES ET DES  
TEMPERATURES DES GAZ INERTES DANS UNE COLONNE  
POSITIVE DE DECHARGE. (Study of Densities of  
Excited Atoms and Temperatures of Inert Gases  
in Positive Discharge Columns). K. S.  
Mustafin. Translated into French from  
Vestnik Leningrad. Univ. 15, No. 22, Ser.  
Fiz. i Khim. No. 4, 130-7(1960). 23p.

Physics; Translations      MC-34

C-34   NP   NSA   Dep.(mc); \$2.60(fs), \$0.89(mf)  
JCL or OTS

N-3

61-20722

Zhilich, A. G. and Makarov, V. P.  
ON THE BAND STRUCTURE OF CUPROUS OXIDE.  
15 Sep 61, 21p. 26 refs.  
Order from OTS or SLA \$1.60

61-20722

Trans. of Leningrad U. (Vestnik) (USSR) 1961 [v. 16]  
no. 10, Seriya Fizika i Khimii no. 2, p. 13-30.

DESCRIPTORS: \*Copper compounds, \*Oxides,  
Crystals, Lattices, Absorption, Crystallization,  
Spectrographic analysis.

The method of Koringa-Kohn-Rostoker was used to  
compute the band energy structure of cuprous oxide  
which is crystallized in a complex cubic lattice. Nu-  
merical values were found of the energies of two  
bands at the  $\vec{K} = 0$  point of the Brillouin band. The  
magnitude of the difference  $\Delta E(O) = E_{\Gamma_1}(O) - E_{\Gamma_{25}}(O)$

0.76 Ry  $\approx$  2.38 ev is in good agreement with the  
(Physics--Solid State, TT, v. 7, no. 9) (over)

I. Zhilich, A. G.  
II. Makarov, V. P.

Office of Technical Services

Shchukarev, S. A. and Suborov, A. V.  
A THERMODYNAMIC INVESTIGATION OF CERTAIN  
CHLORINE DERIVATIVES OF MOLYBDENUM AND  
TUNGSTEN. [1962] 15p. 26 refs.  
Order from OTS or SLA \$1.60 63-13032

Trans. of Leningrad U. Vestnik (USSR) 1961 [v. 16]  
no. 4 [Seriya Fizika i Khimiya no. 1] p. 87-99.

DESCRIPTORS: \*Molybdenum compounds, \*Tungsten  
compounds, \*Chlorides, \*Oxychlorides, Evaporation,  
Dissociation, Disproportionation, Transition  
temperature, Measurement, Chemical reactions,  
\*Thermodynamics.

The processes of evaporation, dissociation and  
disproportionation in the system  $\text{MoCl}_5 - \text{MoO}_3$  and  
 $\text{WCl}_6 - \text{WO}_3$  by means of membrane and optico-  
tensimetric methods were studied. Some thermodynamic  
functions of these processes were obtained. (Author)  
(Chemistry--Physical, TT, v. 10, no. 3)

63-13032

I. Shchukarev, S. A.  
II. Suborov, A. V.

Office of Technical Services

S. Z. Frisch, O. P. Bochkova.

RUSSIAN, per, Vest Leningrad Univ Ser Fiz i Khim,  
Vol III, 1961, pp 40-58.

\*PL-480

OTS 63-11135

PST 894

Sci

Jan 63

Certain Calculations of the Temperature  
Distribution in the Upper Atmosphere, by  
O. P. Filipovich, 14 pp.

RUSSIAN, per, Vest Leningrad Univer, Ser Fiz  
i Khim, Vol XVI, No 3, 1961, pp 66-76.  
9673555

FID-TT-61-369

Sci - Geophys

186,964.

2 Mar 62

Myuller, R. L.  
VALENCY NATURE OF CONDUCTIVITY OF THE  
GLASS-SEMICONDUCTORS. [1963] [14p] 36refs  
C. E. Trans. 2803.  
Order from OTS, SLA, or ETC \$1.60 TT-64-13232

Trans. of Leningrad U. [Vestnik] (USSR) 1961 [v. 16]  
no. 22, Ser[iya] Fiz[ika] i Khim[ia] no. 4, p. 86-96.  
Another trans. is available from OTS, SLA, or ETC  
\$2.60 as TT-63-18919 [1963] 26p.

NLL/9026.09 1963 2803

(Physics--Solid State, TT, v. 11, no. 2)

TT-64-13232

- I. Myuller, R. L.
- II. CE-Trans-2803
- III. Central Electricity  
Generating Board,  
London (England)

Office of Technical Services



Shchukarev, S. A., Kolbin, N. I., and Ryabov, A. N.  
ANHYDROUS RUTHENIUM TRIBROMIDE. [1962] [7]p.  
8 refs.

Order from OTS or SLA \$1.10

63-13401

Trans. of Leningrad U. Vestnik (USSR) 1961, v. 16,  
no. 4, Ser[ia] Fiz[ika] i Khim[ia] no. 1, p. 100-104.

DESCRIPTORS: \*Ruthenium compounds, \*Bromides,  
Anhydrides, Synthesis, Physical properties,  
Dissociation.

Anhydrous ruthenium tribromide was prepared by  
directly combined ruthenium and bromine in sealed  
tubes at a bromine pressure of 15 to 20 atm and a tem-  
perature of 450° to 500°C. The density and the lattice  
plane spacing of RuBr<sub>3</sub> prepared in the dry way were  
determined. A study was made of the thermal dis-  
sociation of ruthenium tribromide, and the thermo-  
(Chemistry--Inorganic, TT, v. 10, no. 4) (over)

63-13401

- I. Shchukarev, S. A.
- II. Kolbin, N. I.
- III. Ryabov, A. N.
- IV. Translations, New York

Office of Technical Services

61-20722

Zhilich, A. G. and Makarov, V. P.  
ON THE BAND STRUCTURE OF CUPROUS OXIDE.  
15 Sep 61, 21p. 26 refs.  
Order from OTS or SLA \$1.60

61-20722

Trans. of Leningrad U. Vestnik (USSR) 1961 [v. 16]  
no. 10, Seriya Fizika i Khimii no. 2, p. 13-30.

DESCRIPTORS: \*Copper compounds, \*Oxides,  
Crystals, Lattices, Absorption, Crystallization,  
Spectrographic analysis.

The method of Koringa-Kohn-Rostoker was used to  
compute the band energy structure of cuprous oxide  
which is crystallized in a complex cubic lattice. Nu-  
merical values were found of the energies of two  
bands at the  $\bar{K} = 0$  point of the Brillouin band. The  
magnitude of the difference  $\Delta E(0) = E_{\Gamma_1}(0) - E_{\Gamma_{25}}(0)$

0.76 Ry = 2.38 ev is in good agreement with the  
(Physics--Solid State, TT, v. 7, no. 9) (over)

I. Zhilich, A. G.  
II. Makarov, V. P.

Office of Technical Services

Sochava, I. V.  
SPECIFIC HEAT OF POLYMETHYLMETHACRYLATE  
AND POLYSTYRENE AT LOW TEMPERATURES.  
[1962] [5]p. 6 refs.  
Order from OTS or SLA \$1.10

63-13402

Trans. of Leningrad U. Vestnik (USSR) 1961, v. 16,  
no. 10, Seriya Fizika i Khimiya, no. 2, p. 70-72.

DESCRIPTORS: \*Specific heat, \*Methyl radicals,  
\*Styrenes, Low temperature research, \*Acrylic  
resins, Styrene plastics.

The specific heat of polymethylmethacrylate and polystyrene was measured at temperatures between 16° and 50°K. The temperature dependence of the heat capacities of both substances was found to be linear at temperatures above 40°K. The high values of the specific heat of polymethylmethacrylate, compared to that of polystyrene, at temperatures above 60°K are (Materials--Plastics, TT, v. 10, no. 4) (over)

63-13402

I. Sochava, I. V.  
II. Translations, New York

Office of Technical Services

Reabsorption Methods for Determination of Transition  
Probabilities and Level Populations, by S. E. Frish,  
O. P. Bochkova, 18 pp.  
RUSSIAN, per, Vest Lening Univer. Seriya Fiz i Khim,  
No 16, 1961, pp 40-58.  
OTS 63-11135  
PL-480

Sci - Phys  
Mar 64

253,045

Bogdanova, N. I. and Ariya, S. M.  
ELECTROCONDUCTIVITY OF LOWER VANADIUM  
OXIDES. [1962] [6]p. 10 refs.  
Order from OTS or SLA \$1.10

62-10649

Trans. of Leningrad U. Vestnik (USSR) 1961, v. 16  
[no. 16] Seriya Fizika i Khimii no. 3, p. 143-147.

DESCRIPTORS: \*Vanadium compounds, \*Oxides,  
Chemical analysis, Electrical conductance,  
\*Electrochemistry.

(Chemistry--Physical, TT, v. 9, no. 1)

62-10649

I. Bogdanova, N. I.  
II. Ariya, S. M.

Office of Technical Services

Myuller, R. L.  
THE VALENCE NATURE OF THE ELECTRICAL  
CONDUCTIVITY OF SEMICONDUCTING GLASSES.  
[1963] 26p. 37 refs.  
Order from OTS or SLA \$2.60

63-18919

Trans. of Leningrad U. Vestnik (USSR) 1961, v. 16,  
no. 22, Seriya Fizika i Khimii no. 4, p. 86-96.

DESCRIPTORS: \*Glass, \*Semiconductors, \*Elec-  
trical conductance, \*Valence, Selenium, Crystal  
structure, Crystal lattices, Chemical bonds,  
Polymers.

A model of the mechanism of the intrinsic conductivity  
of semiconductors with low current carrier mobility  
is proposed on the basis of a representation of the  
individual nature of localized electron-pair bonds  
between atoms. The theoretical expression for the  
(Physics--Solid State, TT, v. 10, no. 11) (over)

63-18919

I. Myuller, R. L.

NLL (LOAN) Ref:  
9022.C9 1963  
(2803)

Office of Technical Services

Investigation of Molybdenum Halides.  
Determination of the Formation Enthalpy of  
Tetrabromide, by S. A. Shchukarev, et al.  
RUSSIAN, per, Vestnik Leningradskovo Univer-  
siteta Ser. Fiz. Khim, No 22, 1961,  
pp 127-129.

BISI 4508

USSR  
Sci/BQM  
Feb 66

294,657

Hydrogenation of Natural and Synthetic CIS -  
1,4-Polyisoprene, by A. I. Yakubchik,  
B. I. Tikhomirov, 8 pp.  
RUSSIAN, per, Vestnik Leningrad Univ, Ser Fiz  
Khim, No 4, 1961, pp 135-138.  
AEC/UCRL-Tr-10320-69

Sci/Phy  
Jun 69

382,696



Supplement and Corrections to the Article "Methods  
of Determination of Transition Probabilities and  
Level of Populations According to Reabsorption of  
Radiation, by S. E. Frish, O. P. Bochkova, 2 pp.

RUSSIAN, per, Vest Lening Univer, No 4, 1962,  
pp 73-74.

\*OTS 63-11135  
PL-480

Sci  
Mar 64

Electrical Conductivity of the Arsenic  
Selenium Thallium System in the Glassy  
State, by R. L. Myuller, and T. P.

Markova.

RUSSIAN, per, Vestnik Leningr. Universita

Ser. Fiz. Khim, 1962, No 4, pp 75-89.

NIL 9022.09 1964 (3382) (On Loan)

Aug 65

286,473

Repinskii, S. M.  
DETERMINATION OF SURFACE CONDUCTIVITY OF  
GERMANIUM IN CONTACT WITH A SOLUTION OF  
LOW CONDUCTIVITY. [1962] 5p. 1 ref.  
Order from OTS or SLA \$1.10 63-10250

Trans. of Leningrad U. Vestnik (USSR) 1962 [v. 17]  
no. 10 [Seriya Fizika i Khimiya no. 1] p. 103-106.

DESCRIPTORS: Surface properties, \*Germanium,  
\*Electrical conductance, Solutions, Semiconductors,  
Measurement, Resistance (Electrical).

(Physics--Solid State, TT, v. 10, no. 1)

63-10250

I. Repinskii, S. M.

Office of Technical Services

A Theoretical Investigation by Means of  
Free Electrons of the Reactivity in Sub-  
stitution Reactions of the Molecules with  
Conjugate Bonds, by M. H. Adamov and  
I. F. Tupitsyn,  
RUSSIAN, per, Vestnik Leningradskogo Univ.  
Seriya Fiziki i Khimiy, Vol XVI, No 3, 1962,  
pp 47-65.  
ALL RTS 3025  
(On Loan or Purchase)

Sci-Chem  
Apr 67

322,951

A Thermodynamic Investigation of  
Molybdenum Dibromide, by S. A. Shchukarev.  
RUSSIAN, per, Vestnik Leningradskogo  
Universiteta Ser. Fiz. Khim, No 4, 1962,  
pp 148-153.  
BISI 4509

USSR  
Sci/M&M  
Jan 66

294,630

Determination of Approximate Transition Probabilities  
and Absorption Coefficients for the Levels of the  
Configurations  $1s^2 2s^2 2p^1$  and  $1s^2 2s^2 p^1 (4-3p)$  in N III,  
by A. A. Nikitin, 23 pp.  
RUSSIAN, per, Vestn. Lening Univ, No 13, 1962,  
pp 113-137.  
OTS 63-11135  
PL-480

Sci - Phys  
Mar 64

253,048

Shchukarev, S. A., Andreev, S. N., and Balicheva, T. G.

INFRARED SPECTRA OF PERCHLORIC ACID AND ITS SOLUTIONS IN THE REGION 3700-2300 CM.<sup>-1</sup>. [1962] 12p. 25 refs.

Order from OTS or SLA \$1.60

62-20164

Trans. of Leningrad U. *Vestnik (USSR)* 1962 [v. 17] no. 4 [Seŭiya Fizika i Khimii no. 1] p. 128-134.

DESCRIPTORS: \*Perchloric acid, Gases, Water, Solutions, Organic solvents, \*Spectra (Infrared), Absorption spectra.

A study is made of vibrational frequencies of aqueous HClO<sub>4</sub> in a broad range of its concentrations, and of the vibrational spectra of this acid in gas phase and in organic, non polar solutions.

(Chemistry--Physical, TT, v. 9, no. 11)

62-20164

I. Shchukarev, S. A.  
II. Andreev, S. N.  
III. Balicheva, T. G.

Office of Technical Services

Measurement of the Surface Conductivity of Germanium  
in Contact With a Solution of Low Conductivity,  
by S. M. Repinsky.

RUSSIAN, per, Vest Leningrad Univ, No 10,  
1962, pp 103-107.

*6*  
\*SLA

Sci - Chem  
Oct 62

*also*  
*APP Lib*  
*7/10/62*



Herald of Leningrad University. Physics and Chemistry  
Series, 279 pp. POST EDITED

RUSSIAN, per, Vest Leningrad Univ, ~~Vest~~ Seriya  
Fiziki i Khimii, Vol I, 1963, pp 1-186. 9695392

FTD-MT-64-64  
GOV'T USE ONLY

Sci  
Dec 64

269,698

Storonkin, A. V., Shul'ts, M. M., and  
Korchagin, V. V.  
A STUDY OF THE CHEMICAL POTENTIALS AND  
ACTIVITY COEFFICIENTS OF THE COMPONENTS OF  
BINARY SOLID SOLUTIONS. 6p.  
Order from ATS \$8.25

ATS-74R75R

Trans. of Leningrad U. Vestn [R] USSR 1963 [v. 18]  
no. 10, Seriya Fiz [R] i Khim [R] no. 2] p. 91-95.

(Chemistry--Physical, TT, v. 12, no. 4)

TT-64-22249

I. Storonkin, A. V.  
II. Shul'ts, M. M.  
III. Korchagin, V. V.  
IV. ATS-74R75R  
V. Associated Technical  
Services, Inc.,  
East Orange, N. J.

Office of Technical Services

Selected Articles.  
RUSSIAN, per, Vestnik Leningrad Univ, Seriya  
Fiziki i Khimiy, No 2, 1964, pp 5-138.  
P180006968-V  
FTD-MT-64-359  
~~448~~

Sci-EX Phys  
Jan 68

348,778

Method of Calculating Deviations from Kirk-  
hoff's Law in the Mesosphere in the Presence  
of Radiation Transfer in the 15  $\mu$ m Carbon  
Dioxide Band, by G. M. Shved,  
RUSSIAN, per, Lenin Univ Vest Ser Fiz i Khim,  
Vol IV, No 1, 1964, pp 67-79.  
RAND

Sci - ES  
Jul 66

305,399

Single Line Approximation during the Transfer  
of Radiant Energy in the Upper Atmosphere,  
by G. M. Shved.

RUSSIAN, per, Lenin Univ Vest Ser Fiz i Khim,  
Vol IV, No 1, 1964, pp 79-81.

RAND

Sci - ES  
Jul 66

305,1400

Experiments With Gas Lasers, by  
N. I. Kaliteyevskiy, A. N. Razumovskiy,  
14 pp.

RUSSIAN, per, Vest Lening Univ, Ser Fiz  
i Khim, No 10, 1964, pp 40-46. 9699653  
FTD-TT-65-1060

Sci - Engr  
Feb 66

296,359

The Vapor Composition in the Halide  
Systems of Certain Alkali and Alkali Earth  
Metals, by G. I. Novikov, A. L. Kuz'Menko.  
RUSSIAN, per, Vestn Leningr Univ Ser Fiz  
i Khim, No 16, 1964, pp 143-149.  
NASA TT F-10,195

Sci-Phys  
Jul 66

306,542

Synthesis and Electrical Conductivity of Glassy  
AsSe<sub>1.5</sub>Si<sub>x</sub> Alloys, by E. V. Shkol'nikov.  
RUSSIAN, per, Vestn. Leningr. Univ., Vol XX,  
No 4, Ser. Fiz. Khim. No 1, 1965, pp 115-119.  
ATS RJ-4702

Sci-Phys  
Jul 67

329,123